

WHAT IS CLAIMED IS:

5

1. An apparatus for monitoring devices connected to a network, comprising:

10 a relationship object maintaining part
maintaining dependent information for each
relationship between devices connected to the network,
said dependent information indicating how one device
influences another device when the one device causes
a problem;

an event table maintaining part
15 maintaining device information, which identifies a
device in the network, indicated by an event received
from the device;

an event collecting part collecting each event received from the devices and controlling the event table maintaining part to maintain the device information when the event indicates a problem; and

a problem alarm notifying part determining, based on the dependent information maintained by the relationship object maintaining part, whether or not each of the devices identified by the device information maintained by the event table maintaining part influences another device by the problem, and specifying which device is causing the problem in accordance with a result of the determination.

30

2. The apparatus as claimed in claim 1,
35 wherein said dependent information is defined for
each of a first direction from said one device to
said another device and a second direction from said

another device to said one device by dependent information between the devices.

5

3. The apparatus as claimed in claim 1, wherein:

10 said device information maintained by said event table maintaining part includes a suppressing flag for suppressing said problem alarm notifying part from specifying that the device corresponding to said device information is causing the problem; and
15 said problem alarm notifying part determines whether or not the event table maintaining part is to maintain the device information of another event received from another device indicated by the dependent information corresponding to said event
20 received from the device, and controls a suppressing flag based on the dependent information in accordance with a result of the determination, so that said problem alarm notifying part specifying which device is causing the problem.

25

4. The apparatus as claimed in claim 1, wherein when the event received from the device
30 indicates to change or add the dependent information, said event collecting part controls said relationship object maintaining part to change or add the dependent information in accordance with a predetermined rule for defining the dependent
35 information based on the relationship between two types of the devices.

004260 80072960

5 5. The apparatus as claimed in claim 1,
further comprising a management object maintaining
part maintaining configuration information related to
a configuration of each of the devices to be managed,
 wherein when the event received from the
device indicates to change or add the configuration
10 information, said event collecting part controls said
management object maintaining part to change or add
the configuration information indicated by the event,
and controls said relationship object maintaining
part to change or add the dependent information
15 related to devices connected to the device that sent
the event.

20
 6. The apparatus as claimed in claim 1,
further comprising:
 a management object maintaining part
maintaining configuration information related to a
25 configuration of each of the devices to be managed;
 a management object displaying part
representing each configuration information
maintained by said management object maintaining part
as a clickable image on a display unit; and
30 a relationship displaying part displaying
several selectable types of the dependent information
to define the dependent information between the
devices corresponding to the clickable images when at
least two clickable images are clicked,
35 wherein the dependent information defined
by said relationship displaying part is maintained by
said relationship object maintaining part.

00220" 80072960

5 7. A method for managing a network,
comprising the steps of:

 (a) maintaining dependent information for
each relationship between devices connected to the
network, said dependent information indicating how
10 one device influences another device when the one
device causes a problem;

 (b) maintaining device information, which
identifies a device in the network, indicated by an
event received from the device;

15 (c) collecting each event received from
the devices and executing the step (b) to maintain
the device information when the event indicates a
problem; and

 (d) determining, based on the dependent
20 information maintained in the step (a), whether or
not each of the devices identified by the device
information maintained in the step (b) influences
another device by the problem, and specifying which
device is causing the problem in accordance with a
25 result of the determination.

30 8. The method as claimed in claim 7,
wherein said dependent information is defined for
each of a first direction from said one device to
said another device and from a second direction said
another device to said one device by dependent
35 information between the devices.

00220 000000

9. The method as claimed in claim 7,
wherein:

5 said device information maintained in said
step (b) includes a suppressing flag for suppressing
from specifying that the device corresponding to said
device information is causing the problem; and
 said step (d) determines whether or not
10 the device information of another event, which is
received from another device indicated by the
dependent information corresponding to said event
received from the device, is to be maintained in the
step (b), and controls said suppressing flag based on
15 the dependent information in accordance with a result
of the determination, so that said step (d) specifies
which device is causing the problem.

20

10. The method as claimed in claim 7,
wherein when the event received from the device
indicates to change or add the dependent information,
25 said step (c) executes said (a) to change or add the
dependent information in accordance with a
predetermined rule for defining the dependent
information based on the relationship between two
types of the devices.

30

11. The method as claimed in claim 7,
35 further comprising a step of (e) maintaining
configuration information related to a configuration
of each of the devices to be managed,

004260-8072960

wherein when the event received from the device indicates to change or add the configuration information, said step (c) executes said step (e) to change or add the configuration information indicated
5 by the event, and executes said step (a) to change or add the dependent information related to devices connected to the device that sent the event.

10

12. The method as claimed in claim 7, further comprising steps of:

(e) maintaining configuration information
15 related to a configuration of each of the devices to be managed;

(f) representing each configuration information maintained in said step (e) as a clickable image on a display unit; and

20 (g) displaying several selectable types of the dependent information to define the dependent information between the devices corresponding to the clickable images when at least two clickable images are clicked,

25 wherein the dependent information defined in said step (g) is maintained in said step (a).

30

13. A computer-readable recording medium having a program recorded thereon for causing a computer to manage a network, comprising the codes of:

35 (a) maintaining dependent information for each relationship between devices connected to the network, said dependent information indicating how

004260 80072960

the device information of another event, which is received from another device indicated by the dependent information corresponding to said event received from the device, is to be maintained by the
5 code (b), and controls said suppressing flag based on the dependent information in accordance with a result of the determination, so that said code (d) specifies which device is causing the problem.

10

16. The computer-readable recording medium as claimed in claim 13, wherein when the event
15 received from the device indicates to change or add the dependent information, said code (c) executes said (a) to change or add the dependent information in accordance with a predetermined rule for defining the dependent information based on the relationship
20 between two types of the devices.

25 17. The computer-readable recording medium as claimed in claim 13, further comprising the code of (e) maintaining configuration information related to a configuration of each of the devices to be managed,

30 wherein when the event received from the device indicates to change or add the configuration information, said code (c) executes said code (e) to change or add the configuration information indicated by the event, and executes said code (a) to change or
35 add the dependent information related to devices connected to the device that sent the event.

002260-80042960

18. The computer-readable recording
5 medium as claimed in claim 13, further comprising the
codes of:

(e) maintaining configuration information
related to a configuration of each of the devices to
be managed;

10 (f) representing each configuration
information maintained by said code (e) as a
clickable image on a display unit; and

(g) displaying several selectable types of
the dependent information to define the dependent
15 information between the devices corresponding to the
clickable images when at least two clickable images
are clicked,

wherein the dependent information defined
by said code (g) is maintained by said code (a).

004260 80072960